

SW



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,310	10/22/2001	Laszlo Man	3191/IG988-US1	9871

7590 11/14/2003

DARBY & DARBY P.C.
805 Third Avenue
New York, NY 10022

EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT	PAPER NUMBER
----------	--------------

3618

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,310

Applicant(s)

MAN ET AL.

Examiner

Frank Vanaman

Art Unit

3618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 10, 11, 13-16, 23, 26, 30 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 10, 11, 13-16, 23, 26, 30, and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3618

Status of Application

1. Applicant's amendment, filed Sept 5th, 2003 has been entered in the application. Claims 1, 2, 10, 11, 13-16, 23, 26, 30, and 36 are pending.

Claim Objections

2. Claim 26 is objected to because of the following informalities: this claim is written to depend from a canceled claim, namely claim 25. In view of the only independent claim in the application being claim 1, claim 26 is interpreted as depending from claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 26, the term "the fixed ratio" lacks a clear antecedent basis. Note that now-canceled claim 25 made reference to a fixed ratio, however currently pending claim 1, from which claim 26 is assumed to depend, does not.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1, 2, 10, 11, 13-16, 23, 26, 30, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al. (US 5,935,040) in view of Fujita et al. (US 4,869,332) and Maucher et al. (US 4,458,156). Tabata et al. teach a vehicle having a power train including a combustion engine (12) with a drive shaft, a transmission (18) with an input shaft, an energy converter (14) which can operate at least as a motor and generator; with an energy converter shaft (14r) turning at a different rate; which has a rotary transfer device "arranged" on the drive shaft, in the form of an interactive connection (16) including at least one gear pair (16c, 16s, 16r), the interactive connection being connectable to the drive shaft, which can select a plurality of rpm ratios (through the operation of the two clutches CE1 and CE2) so as to function in at least two operating modes including a start-up mode (Mode 9-- for starting the combustion engine, wherein torque flows from the converter to the engine) and a driving mode (Mode 1-- for propelling the vehicle, wherein torque is delivered to the vehicle

Art Unit: 3618

drive train) and a generation mode (Mode 3-- for charging while driving, wherein torque flows to the converter, and wherein an rpm ratio of between 1:2 and 2:1-- in this case about 1:1-- is set); the driving shaft extending from a rear portion of the engine, facing the transmission, where the interactive connection is located; there being provided a torque coupling device (C1, C2) for connecting and disconnecting the transmission from the drive shaft; the energy converter and engine shafts being parallel.

The reference of Tabata et al. fails to teach the connection to the energy converter as being a pair of fixed-ratio gear pairs (transfer elements, each forming a torque path), including a pair of overrunning clutches (one per gear pair), wherein each of the respective gear sets is employed for one of a pair of modes. Fujita et al. teach an interactive connection between an engine drive shaft and an electrical energy converter (2) mounted on a shaft (3), including first and second pairs of fixed-ratio gear sets which serve as transfer elements (5 & 6; 7 & 9) wherein each gear- or transfer element- set forms a torque path for a respective one of two modes, the flow through the path being governed by a pair of overrunning clutches (4, 10-- one per gear set), which are located upstream or downstream of a source of torque, dependent upon the direction of flow of the torque. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a dual gear set transfer device such as taught by Fujita et al. in place of the transfer device (16) taught by Tabata et al. in order to reduce the complexity of the connection between the converter and drive shaft, and to allow fixed transfer rates and rpm ratios between the respective operating modes of the vehicle of Tabata et al. The reference of Tabata et al. as modified by Fujita et al. fails to specifically teach the rpm ratio in the starting mode as being smaller than the ratio in the charging mode, and the particular range of ratios for the starting mode. It would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the relative ratios for the starting and charging modes, for example such that the rpm ratio in the starting mode is smaller than the ratio in the charging mode, for the purpose of adjusting the relative speeds of the rotating components, in order to insure that charging is accomplished in a most efficient speed range for the converter, and to insure that the

Art Unit: 3618

engine is rotated at an appropriate speed for starting, when the converter is running in a speed where it can develop sufficient torque to start the engine.

The reference to Tabata et al. as modified by Fujita et al. fails to teach the provision of a friction clutch, located between the engine and electromechanical converter and the transmission. Maucher et al teach an old and well known arrangement (see figures 1 and 4) wherein an engine (11) and electromechanical energy converter (12) may be connected or separated from a transmission (21) by a friction clutch (19). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a separating friction clutch as taught by Maucher et al. between the engine/electrical converter and transmission of the vehicle of Tabata et al. as modified by Fujita et al., for the purpose of reducing drive train friction while coasting (see the specific teaching in Maucher et al. at col. 6, lines 34-43).

Response to Comments

6. Applicant's comments have been carefully considered. As regards the limitation of a clutch which is interposed between the engine and electric machine, and the transmission, the examiner agrees that the references to Tabata et al. and Fujita et al. fail to teach this limitation. Note the reference to Maucher et al., cited previously, which does teach that such an arrangement is indeed old and well known—Maucher et al. specifically referring to a separation of the engine/electric converter from the transmission when the vehicle is coasting.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3618

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 703-308-0424. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is 703-308-1113.

As of May 1, 2003, any response to this action should be mailed to:

Mail Stop _____
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450,

Or faxed to one of the following fax servers:

Regular Communications/Amendments: 703-872-9326
After Final Amendments: 703-872-9327
Customer Service Communications: 703-872-9325

F. VANAMAN
Primary Examiner
Art Unit 3618



11/12/03